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Skill and Competence Management as a Base of an Integrated Personnel Development (IPD)
- A Pilot Project in the Putzmeister, Inc./Germany[1]

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Abstract: The knowledge and the competence of the firm members are substantial success factors in the world-wide competition. For a "Hidden Champion" like the middle-sized manufacturer of Top-Class Concrete Pumps and Plastering Machines, Putzmeister, Inc./Germany, a systematic and anticipating Competence Development System is essential. The article describes a pilot project started in spring 2002 to gain more specific knowledge about the implementation of a strategic computer aided, employee orientated Skill Management System in the Company. The main success factors found are first, an acceptance strategy, which includes the participation of motivated groups of pilots, the integration of the workers council, the support of the management as well as much information and transparency about the objectives and the purpose of the system. Especially a good co-operation with the workers council is from great importance. Finally enough personnel and organizational resources must be given to the project.

Key words: Personnel Development, Skill Management, Skill Management System, Competence Management, Pilot Project, Knowledge Management System.
Category: A.m

1 Introduction

„In an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge.“ wrote Ikujiro Nonaka in his frequently quoted article, published in the Harvard Business Review [Nonaka 1991, p.96], which paved the way for the discipline of knowledge management. Although the importance of this intangible asset has been recognized for some time now, the vision of Ikujiro Nonaka maintains its relevance in today's environment.

In the following 12 years more research strongly showed that the knowledge and the competence of the firm members are substantial success factors in the world-wide competition. This applies also to Putzmeister, Inc. with its headquarters in Aichtal/Germany. This "Hidden Champion" [Simon 1996] in the field of construction machinery produces concrete pumps and mortar machines for the world market. Like many other Swabian machine-builders it is a medium-sized Company operating in a

[1] A preliminary version of this article was presented at I-Know'03 (Graz, Austria, July 2-4, 2003).

small market niche and therefore, gathered enormous specific knowledge about its market segments over the last decades. To maintain the high skill and knowledge level, a strategically designed Personnel and Organizational Development are essential. For this purpose the Personnel management of the Company started a pilot project to introduce a Skill Management System as part of an Integrated Personnel Development (IPD).

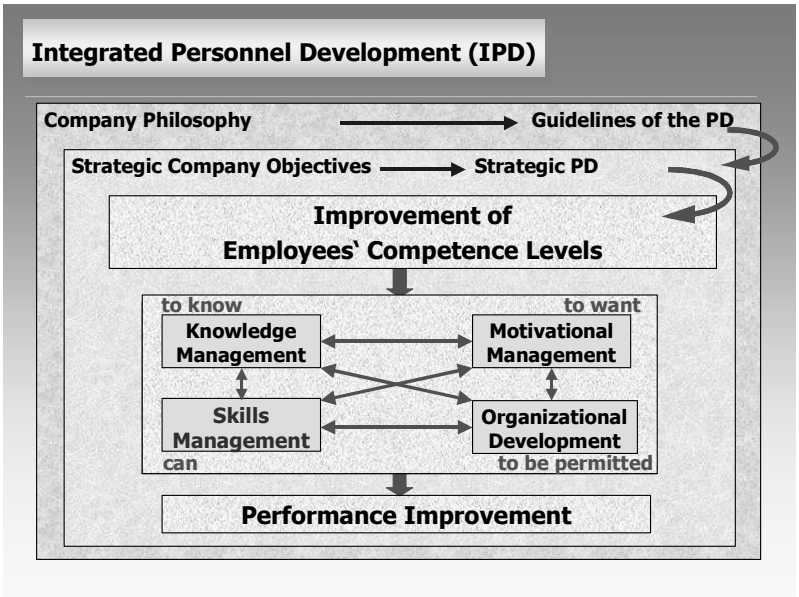

Figure 1: Integrated Personnel Development System

2 The Integrated Personnel Development System (IPD)

Competence Management on a corporate level wants not only to improve the competence of its employees, but to improve their performance. Performance is measured by the achievement of personal and corporate objectives, which are set according to the company's strategy and philosopy. To enable the employee to perform better the company needs more than just Classroom Training. Therefore, the Integrated Personnel Development (IPD) combines knowledge (I know how to) with skills (I can), motivation (I want to) and permission by the organization (I am permitted to) and puts the according Management instruments in relation to each other. The hypothesis is: To improve employees' competence levels all of the four instruments are needed to achieve the final goal which is optimal performance of the employee.

As an example, a company wants to improve their image as a service-oriented company with knowledgeable workers. All the call-center agents are now trained to perform according to the expected image in the four fields of Competence Management. First, they need knowledge about the company's knowledge. Second, they need the skill to use the databases at their workplace. Third, they must be

motivated to serve their customers according to the plan and fourth, be permitted to provide the information needed. Otherwise, the performance will not be satisfactory. The following example shows how Putzmeister Inc. tried to achieve an integrated Competence Development.

3 Knowledge Organization at Putzmeister Inc.

In the fifth decade of its existence, Putzmeister, Inc. is challenged by specific knowledge problems. First, the knowledge of the long-serving specialists has to be transferred to the younger employees. Secondly, the globalization forces the Company to link its foreign subsidiaries into the IPD System shown above.

Thus, new methods are needed to identify and document the unique knowledge of the Company. Employees need easy access to this knowledge and have, as well, the visibility of his or her own colleague's knowledge by "Company Yellow Pages".

Knowledge develops and exists only within people and it is then applied to documents or transferred through conversations and instructed through training. Figure 2 shows the two branches of the knowledge organization at the Putzmeister, Inc. Since the document management via Intranet is already well developed, the actual knowledge management is currently more in focus.

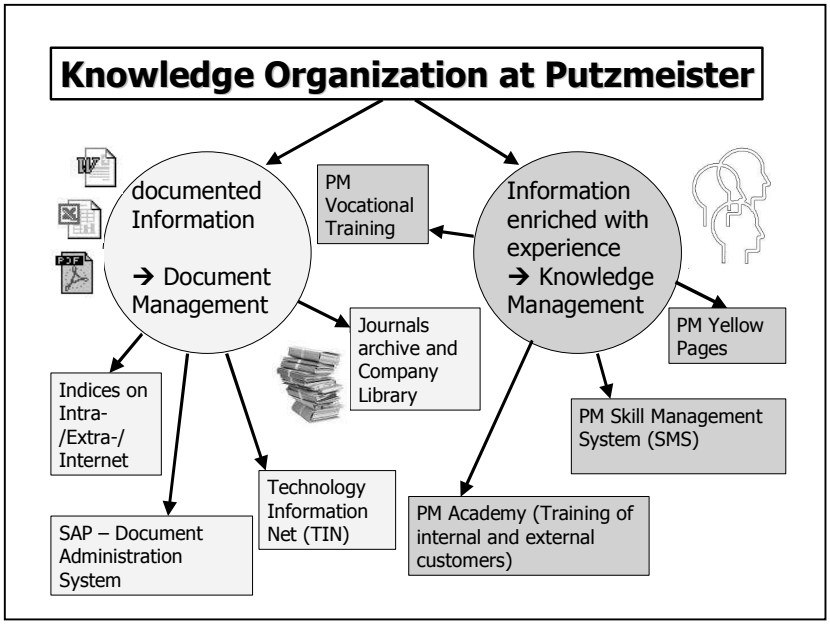

Figure 2: Knowledge Organization at Putzmeister, Inc.

The Skill Management System (SMS) is an essential part of the Knowledge Organization at Putzmeister, Inc. The project to prepare the SMS was launched in the middle of 2001 by the Human Resources department. The objective was to build up the foundation for an integrated skill management process by developing a central database, which shows the skill levels of the employees and the requirements of the job profiles. As both the skill and the job profiles are designed in the same way, matching of the two profiles is possible and allows the design of individual training programs, which are carried out by the PM Academy. The Yellow Pages Project, as mentioned above, can then be derived from the SMS.

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4 What is Skill Management?

"Skill Management" is defined as the management of the qualifications, experiences and knowledge of the employees. The objective is to allocate the appropriate skills at the correct place, at the right time, at optimal costs[Kreitmeier et al. 2000].

The information of a skill database can be used in many ways:

(1) **In Knowledge Management Concepts:** Skill management databases are designed to match skill profiles with job profiles, or allow searches for a special skill profile needed. This feature is used especially in project staffing [Deiters et al. 1999], [Föcker 2001]. If the skill profiles are linked with personal data, the database can also be used for a "Yellow Pages System" [Deiters et al. 1999, p.19].

(2) **Recruiting**: The required skill profile for a certain post can be used in the assessment of the applicants to determine whose skill profile matches best with the requirements. The job profile can also be offered to internal and external applicants for Self-Assessment [Kreitmeier and Krauter 1998].

(3) **Computer-aided Personnel Development Process**: Managers and employees are able to find out the appropriate training measures with the skill management system.

The starting point of all considerations is the separation of job and person. The questions are, what does a job require and what does the person deliver. The "cans" and the "cannots" are compared and the gaps then are analyzed through so-called "Gap Analysis". The identified gaps should then be discussed between the employee and the manager in the annual personal evaluation meeting. This conversation is the core element of the skill development process. Having discussed the gap analysis

results, the employee and the manager should agree upon appropriate development measures for the upcoming year.

5 Development of a Skill Management System with Pilot Groups

This process seems very simple. However, it poses many critical questions: How does one define skills and how should the profiles be arranged? How can the required skills for a function be identified? How can all the data be kept current? Who evaluates the skill levels of the employee? Who should be allowed to view the skill profiles of an employee? How can acceptance be built up for such a system? Etc.

To receive answers to those questions before a broad roll-out of a skill management system, the personnel managers at Putzmeister, Inc. decided to go for a scientifically supported pilot project. This project should develop an outline for a realistic model for the implementation of a skill management process. The project also outlines all the specific requirements for a skill management software solution.

After one-to-one meetings with all managers, the project team started with three pilot departments. First, the three groups, i.e. the managers and the employees together, went into workshops and compiled the requirement skills for the chosen job profile. The profiles and the skill management process were then programmed under MS-Access to provide the necessary features for a Self-Assessment. Afterwards, the participating managers would evaluate the skill levels of their departments' pilot function, i.e. they considered for each skill the level desired in the particular job. For the skill assessment a five-stage scale was given, from 0 (no knowledge needed) to 4 (expert knowledge necessary).

In the next step the employees' skill profiles had to be programmed similar to the job profiles. The "pilots" then completed the self-assessment on their profiles by estimating their levels on each skill from 0 to 4.

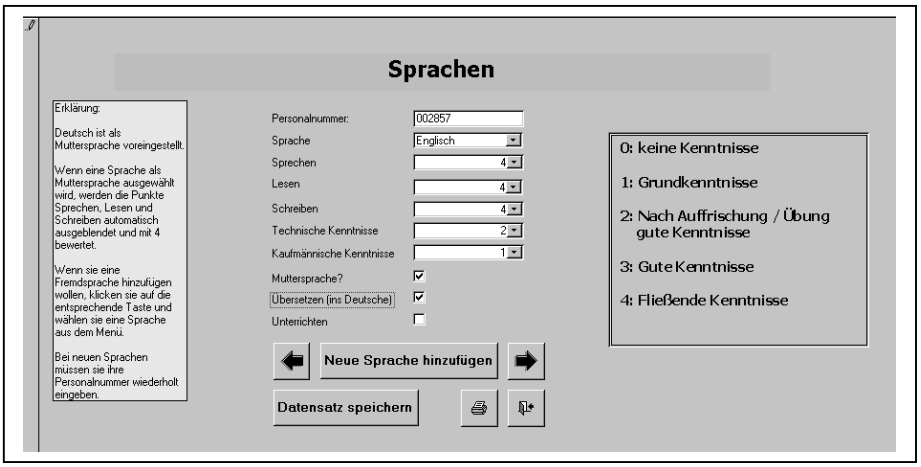

Figure 3: Screenshot of the employees self-assessment in "Sprachen" (languages)

The advantage of the self-assessment lays in the increased motivation of the participants. An assessment by the manager usually creates more conflicts. The manager will assess the employee indirect way when the discuss the results of the matching in the yearly development talks. If both profile sides of the database are filled, the program runs the gap analysis. This analysis has to be given in print to both the employee and the manager some time before the yearly development talks. For showing deficits suitable personnel development measures for the coming year should be found and agreed upon by the employee and the manager. If the gap analysis shows higher skill levels than required the employee could be considered as a potential candidate for job enlargement, job rotation or even for a certain career plan. Another feature of this Skill management system is the opportunity for the employee to compare his own skill profile with every possible job profile within the Company. So he is able to recognise his career possibilities and knows about the skills and knowledge necessary for it.

6 Outlook and Results: Success factors of a Skill Management Systems

After completion of the gap analyses and the yearly discussions of all pilot employees involved, the entire process is under evaluation at present. The project results will be presented to the Executive officers in summer 2003. Then further decisions about the project has to be made by the Board of the Company.

Right now some success-critical factors could be identified. First the most important:

- Employees are rather hesitating when it comes to put data into a skill management system, because such a system mostly reveals more deficits than potentials. However, The chance of a skill management system is to show those hidden deficits and motivates to eliminate them. So the Employee is able to work for fulfilling this job skill requirements and hereby ensures his workplace and employability. This advantage has to be communicated in a clear way to al employees, so the can accept and are ready to cooperate with the planning group. Such an acceptance strategy also needs the participation of motivated groups of pilots, the integration of the workers council, the public support of the management as well as much information and transparency about the objectives and the purpose of the system.
- Especially a good co-operation with the workers council is from great importance. The workers council in Germany possesses a legal say due to the according law, the “Betriebsverfassungsgesetz (BetrVG)”. Besides that, the workers council should be seen as an important partner in all personnel matters and therefor being put into discussion form an early stage. If the workers council is already participating during the conception phase of a pilot project, all further steps are easier to take. It is also a good advise to outline an official agreement (“Betriebsvereinbarung”) with the workers council containing all the specific important agreements of the pilot project. Thus it is ensured that the interests of the employees are taken into consideration and their elected representatives rather than project staff

members can give more detailed and most important accepted information about the objectives and functionality of the system.

- Personnel and organizational resources must be given to the project. First, manpower is needed to maintain the system after implementation and give support to all users. The other question is, where to locate the skill management project from an organizational point of view. Mostly skill management is seen as an IT-project, but its better placed in human resources as the above statements show!
- Concerning technical facilities, interfaces to other systems has to be considered as well as configurableness and usability. A flexible data updating and an easy search and evaluation modus need to be developed as well. Besides the legal questions about data security must be considered.
- Finally it should be mentioned that a certain level of Computer experience is needed by all employees, especially if a self assessment system applies. If necessary special training courses must become done before hand.

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